

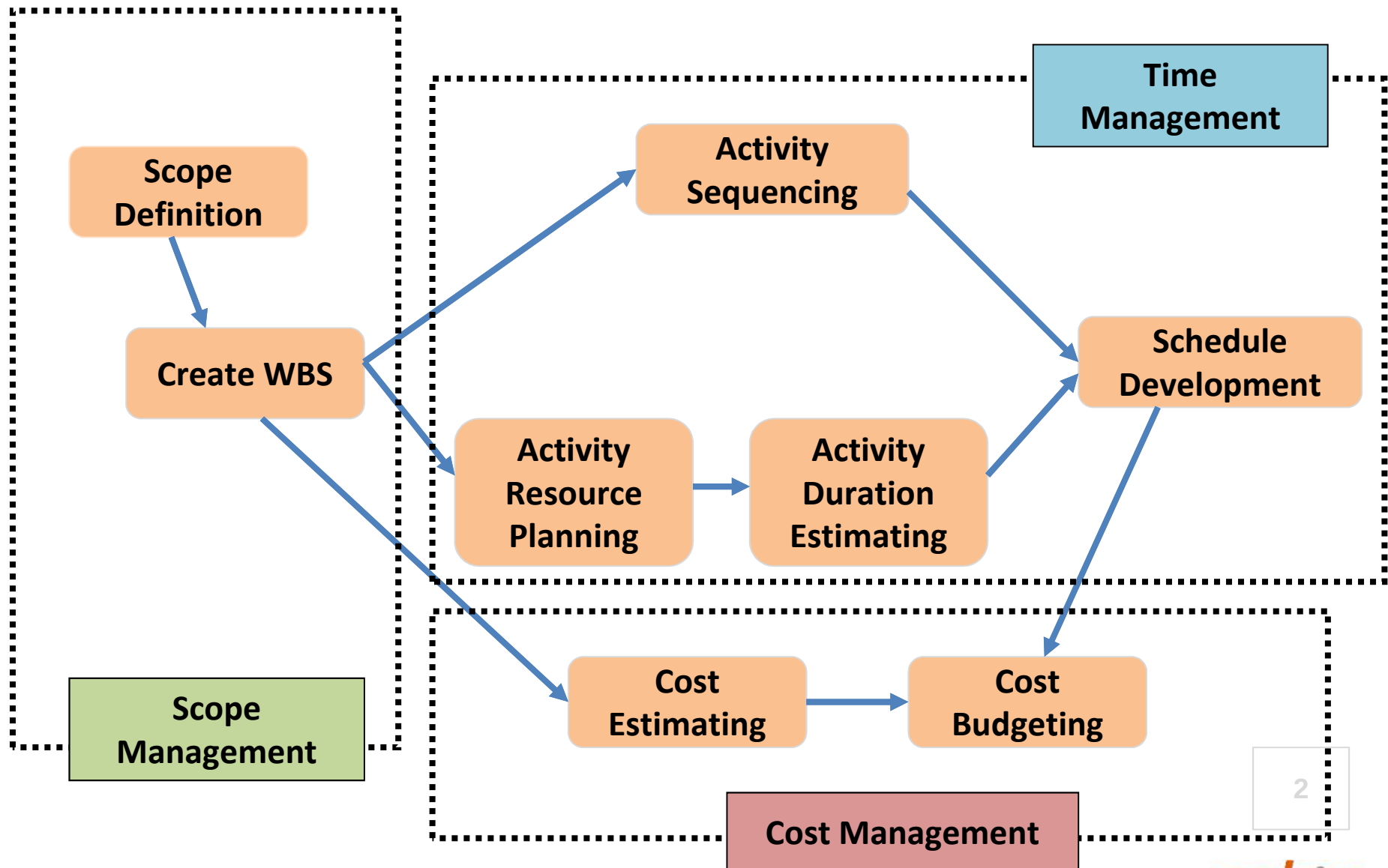
FOLDER 9

PENGURUSAN KOS

- Cost Estimating
- Cost Budgeting
- S-Curve



key planning process for scheduling & estimating..



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Cost Estimating & Budgeting

Perancangan Kos Projek

Merupakan proses yang diperlukan untuk memastikan projek dapat disiapkan dalam lingkungan bajet yang diluluskan



Perancangan Kos Projek



Anggaran Kos

- Kos disediakan pada tahap sub task
- Berkaitan dengan kos sumber (disediakan oleh kontraktor)
- Berdasarkan kos BQ (diisi dalam column fixed cost (MSP))

Bajet Kos

- Bajet kontraktor untuk melaksanakan kerja berdasarkan anggaran kos sumber
- Bajet pelanggan berdasarkan harga kontrak (kos kontrak)
- Merupakan kos baseline/ S-Curve kewangan (kos kontrak)

Anggaran Kos (Cost Estimating)

1.0 specialist salary	1 x RM	70,000.00	x	4 /Month	=	RM	280,000.00
2.0 Staff a) J54	1 x RM	9,000.00	x	20 /Month	=	RM	180,000.00
b) J52	1 x RM	7,000.00	x	20 /Month	=	RM	140,000.00
c) J48	2 x RM	5,000.00	x	20 /Month	=	RM	200,000.00
d) J41	2 x RM	3,000.00	x	20 /Month	=	RM	120,000.00
3.0 Workshop							
Nos of people attend	10 x RM	250.00			=	RM	2,500.00
Fasilitator	4 x RM	200.00	x	8 /Jam	=	RM	800.00
Venue	2 x RM	500.00			=	RM	1,000.00
Refreshment	14 x RM	50.00			=	RM	700.00
4.0 Meeting	10 x RM	350.00			=	RM	3,500.00
5.0 Documentation Submission	5 x RM	2,500.00			=	RM	12,500.00
6.0 Training							
a) Top Management	1 x RM	15,000.00			=	RM	15,000.00
b) Project Team	4 x RM	1,000.00			=	RM	4,000.00
c) Project Manager	1 x RM	10,000.00			=	RM	10,000.00
d) JKR's Profesional	2 x RM	3,000.00			=	RM	6,000.00
e) JKR's Supporting Staff	2 x RM	6,000.00			=	RM	12,000.00
TOTAL					=	RM	<u>988,000.00</u>

Bajet Kos (Cost Budgeting)

Contoh:

- a) Kos keseluruhan projek = RM 270 juta
- b) Kos lain seperti kerja pengambilan tanah (LA) = RM 2.1 juta

Jumlah kos (a) & (b) merupakan bajet yang diperuntukkan **(bajet kos)**



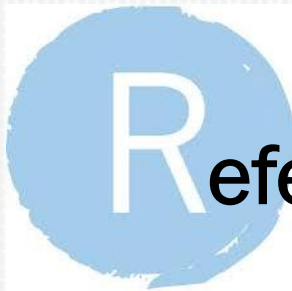
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9

Value of Works

- Cost Of Works As Per BQ



Refer to..

Value of Works table
in Folder 1

Memasukkan Kos Aktiviti

1

2

3

Microsoft Project - Membina 2 Blok Bangunan - Initial - 01 - 2013-06-01.mpp

Task: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13

WBS: 1, 1.1, 1.2, 1.2.1, 1.2.2, 1.2.2.1, 1.2.2.2, 1.2.3, 1.2.4, 1.2.4.1, 1.2.4.2, 1.2.4.3, 1.2.4.4

Task Mode: [icon]

Tables: Cost, Entry, Hyperlink, Schedule, Tracking, Variance, Work, Summary, Usage, Reset to Default, Save Fields as a New Table, More Tables...

Progress Report 3

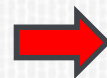
Cost Table →

Task Name	Fixed Cost	Fixed Cost Accrual	Total Cost	Baseline	Variance	Actual	Remaining	in '13
1 Membina 2 Blok Bangunan	\$0.00	Prorated	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
2 Projek Mula	\$0.00	Prorated	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
3 Preliminari	\$0.00	Prorated	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
4 Performance Bond	\$0.00	Prorated	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
5 Est & remove S.O.	\$0.00	Prorated	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
6 Establish S.O	\$0.00	Prorated	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
7 Removal S.O	\$0.00	Prorated	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
8 Maintain S.O.	\$0.00	Prorated	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
9 Progress Report	\$0.00	Prorated	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
10 Progress Report :	\$0.00	Prorated	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

Memasukkan Kos Aktiviti

File Task Resource Project View Format								
Task Views			Resource Views			Data		
Task Name			Fixed Cost	Fixed Cost Accrual	Total Cost	Baseline	Variance	Actual
1	Membina 2 Blok Bangunan		RM0.00	Prorated	2,000,000.00	RM0.00	2,000,000.00	RM0.00
2	Projek Mula		RM0.00	Prorated	RM0.00	RM0.00	RM0.00	RM0.00
3	Preliminari		RM0.00	Prorated	RM50,000.00	RM0.00	RM50,000.00	RM0.00
4	Performance Bond		RM10,000.00	Prorated	RM10,000.00	RM0.00	RM10,000.00	RM0.00
5	Est & remove S.O.		RM0.00	Prorated	RM20,000.00	RM0.00	RM20,000.00	RM0.00
6	Establish S.O.		RM15,000.00	Prorated	RM15,000.00	RM0.00	RM15,000.00	RM0.00
7	Removal S.O.		RM5,000.00	Prorated	RM5,000.00	RM0.00	RM5,000.00	RM0.00
8	Maintain S.O.		RM15,000.00	Prorated	RM15,000.00	RM0.00	RM15,000.00	RM0.00
9	Progress Report		RM0.00	Prorated	RM5,000.00	RM0.00	RM5,000.00	RM0.00
10	Progress Report 1		RM1,000.00	Prorated	RM1,000.00	RM0.00	RM1,000.00	RM0.00
11	Progress Report		RM1,000.00	Prorated	RM1,000.00	RM0.00	RM1,000.00	RM0.00

**Project
Total Cost**



Task Name Fixed Cost Fixed Cost Accrual Total Cost Baseline Variance Actual							
1	Membina 2 Blok Bangunan	RM0.00	Prorated	2,000,000.00	RM0.00	2,000,000.00	RM0.00
2	Projek Mula	RM0.00	Prorated	RM0.00	RM0.00	RM0.00	RM0.00
3	Preliminari	RM0.00	Prorated	RM50,000.00	RM0.00	RM50,000.00	RM0.00
4	Performance Bond	RM10,000.00	Prorated	RM10,000.00	RM0.00	RM10,000.00	RM0.00
5	Est & remove S.O.	RM0.00	Prorated	RM20,000.00	RM0.00	RM20,000.00	RM0.00
6	Establish S.O.	RM15,000.00	Prorated	RM15,000.00	RM0.00	RM15,000.00	RM0.00
7	Removal S.O.	RM5,000.00	Prorated	RM5,000.00	RM0.00	RM5,000.00	RM0.00
8	Maintain S.O.	RM15,000.00	Prorated	RM15,000.00	RM0.00	RM15,000.00	RM0.00
9	Progress Report	RM0.00	Prorated	RM5,000.00	RM0.00	RM5,000.00	RM0.00
10	Progress Report 1	RM1,000.00	Prorated	RM1,000.00	RM0.00	RM1,000.00	RM0.00

Fixed Cost & Total Cost

Task Name	Fixed Cost	Fixed Cost Accrual	Total Cost	Baseline
1 Membina 2 Blok Bangunan	RM0.00	Prorated	RM2,000,000.00	RM2,000,000.00
2 Projek Mula	RM0.00	Prorated	RM0.00	RM0.00
3 Preliminaries	RM0.00	Prorated	RM50,000.00	RM50,000.00
4 Performance Bond	RM10,000.00	Prorated	RM10,000.00	RM10,000.00
5 Est. & Remove S.O	RM0.00	Prorated	RM20,000.00	RM20,000.00
6 Establish S.O	RM15,000.00	Prorated	RM15,000.00	RM15,000.00
7 Removal S.O	RM5,000.00	Prorated	RM5,000.00	RM5,000.00
8 Maintain S.O	RM15,000.00	Prorated	RM15,000.00	RM15,000.00
9 Progress Report	RM0.00	Prorated	RM5,000.00	RM5,000.00
10 Progress Report 1	RM1,000.00	Prorated	RM1,000.00	RM1,000.00
11 Progress Report 2	RM1,000.00	Prorated	RM1,000.00	RM1,000.00
12 Progress Report 3	RM1,000.00	Prorated	RM1,000.00	RM1,000.00
13 Progress Report 4	RM1,000.00	Prorated	RM1,000.00	RM1,000.00
14 Progress Report 5	RM1,000.00	Prorated	RM1,000.00	RM1,000.00
15 Land Acquisition	RM0.00	Prorated	RM0.00	RM0.00
16 Services Relocation	RM0.00	Prorated	RM0.00	RM0.00
17 Blok A	RM0.00	Prorated	RM1,050,000.00	RM1,050,000.00
18 Kerja Tanah	RM200,000.00	Prorated	RM200,000.00	RM200,000.00
19 Kerja Struktur	RM400,000.00	Prorated	RM400,000.00	RM400,000.00
20 Kerja Arkitek	RM250,000.00	Prorated	RM250,000.00	RM250,000.00
21 Kerja M&E	RM200,000.00	Prorated	RM200,000.00	RM200,000.00
22 Blok B	RM0.00	Prorated	RM900,000.00	RM900,000.00
23 Kerja Tanah	RM180,000.00	Prorated	RM180,000.00	RM180,000.00
24 Kerja Struktur	RM290,000.00	Prorated	RM290,000.00	RM290,000.00
25 Kerja Arkitek	RM200,000.00	Prorated	RM200,000.00	RM200,000.00
26 Kerja M&E	RM230,000.00	Prorated	RM230,000.00	RM230,000.00
27 Completion of Cable Laying by TNB	RM0.00	Prorated	RM0.00	RM0.00
28 T&C	RM0.00	Prorated	RM0.00	RM0.00
29 Projek Siap	RM0.00	Prorated	RM0.00	RM0.00

Fixed Cost Accrual (Kaedah Pembayaran)

START

- bayaran 100% dibuat bila kerja bermula
- Contoh : special item /special contract

PRORATED

- bayaran yang dibuat mengikut kemajuan kerja
- Contoh : kerja-kerja fizikal

END

- bayaran 100% dibuat hanya setelah siap kerja
- Contoh : kerja-kerja fizikal yang menggunakan kaedah earned value

Performance Bond	RM10,000.00	Prorated	RM10,000.00
Est & remove S.O.	RM0.00	Prorated	RM0.00
Establish S.O	RM15,000.00	Prorated	RM15,000.00
Removal S.O	RM5,000.00	Start	RM5,000.00
Maintain S.O.	RM15,000.00	Prorated	RM15,000.00
Progress Report	RM0.00	End	RM0.00
Progress Report 1	RM1,000.00	Prorated	RM1,000.00

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Penyediaan S-Curve



Kegunaan S-Curve

Dari Perspektif Pelanggan

- Progress/ Kemajuan Kerja
- Bayaran
- Untuk menyediakan peruntukan

Dari Perspektif Kontraktor

- Anggaran Bajet / Sumber 4M
- Aliran Tunai
- Pelaksanaan
- Progress/ Kemajuan Kerja
- Tuntutan/ Bayaran
- Sebagai asas/bukti untuk menyokong tuntutan bayaran dan permohonan lanjutan masa.

Memahami S-Curve



- Financial S-Curve is based on cost.
 - Works **Cost** (RM) vs Project Duration (Months).
- Physical S-curve is based on duration.
 - Works **Duration** (days) vs Project Duration (Months)

Question 1

A 100mil project shows the actual physical progress of 50% and Client just paid the Contractor 32mil.



Why?
Why different?
Not fair...
Mostly.... Current practice

Question 2

A project shows the variances for financial progress, physical progress and project finish date were -10%, -15% and +20days respectively.

Please explain.



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10

Penyediaan S-Curve Kewangan

Untuk menyediakan **S-CURVE Kewangan** menggunakan MS Project 2010

- ✓ Method 1 – using Visual Reports.
- ✓ Method 2 – using Task Usage View.



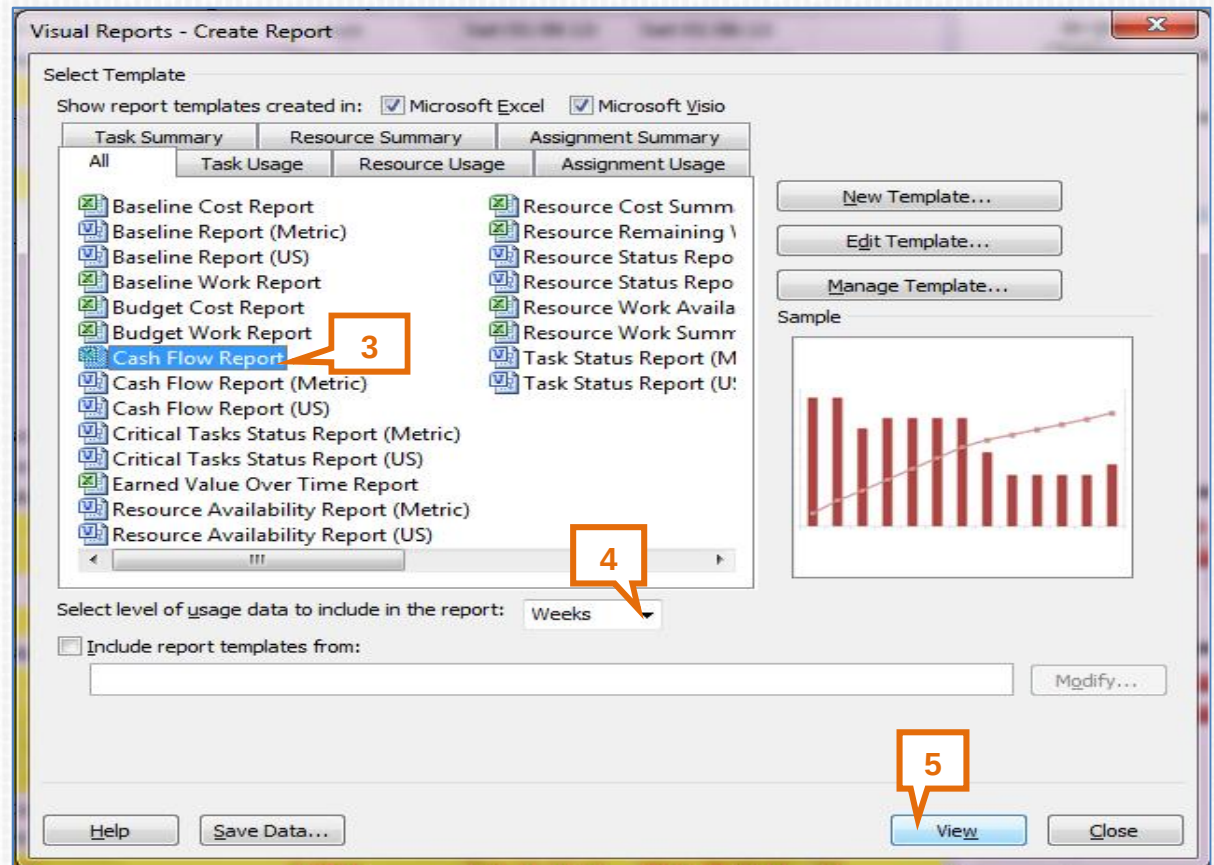
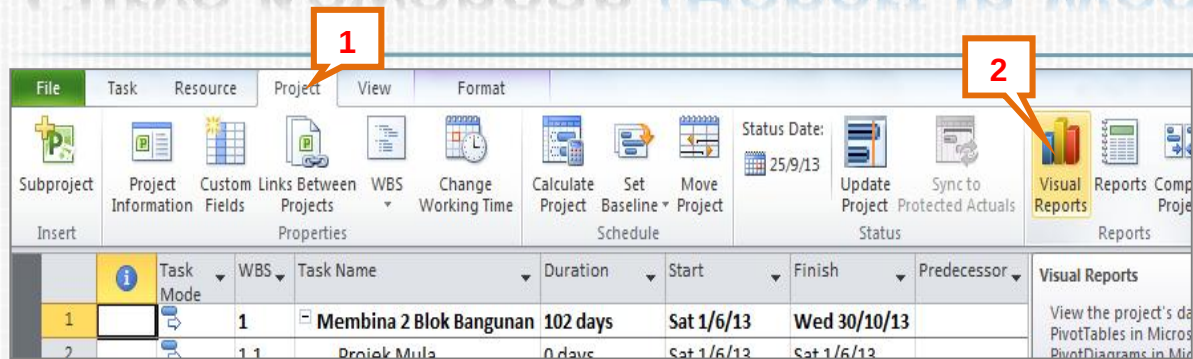
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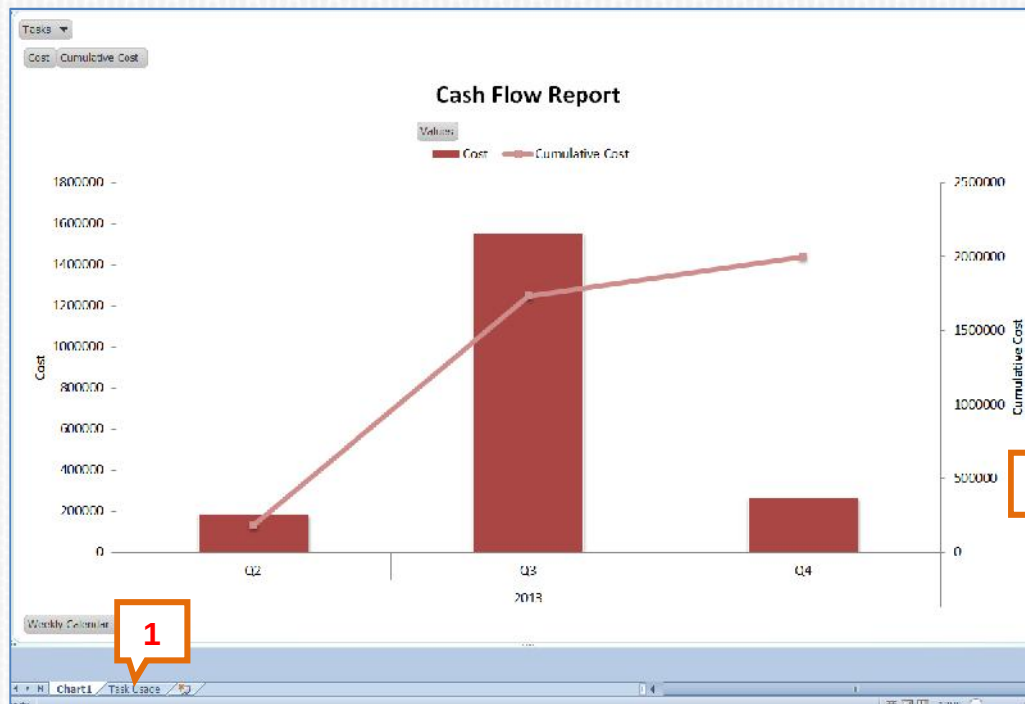
Penyediaan S-Curve Kewangan (Method 1)

- **Menggunakan Visual Report**

S-Curve Kewangan (Report in Week)



S-Curve Kewangan (Report in Week)



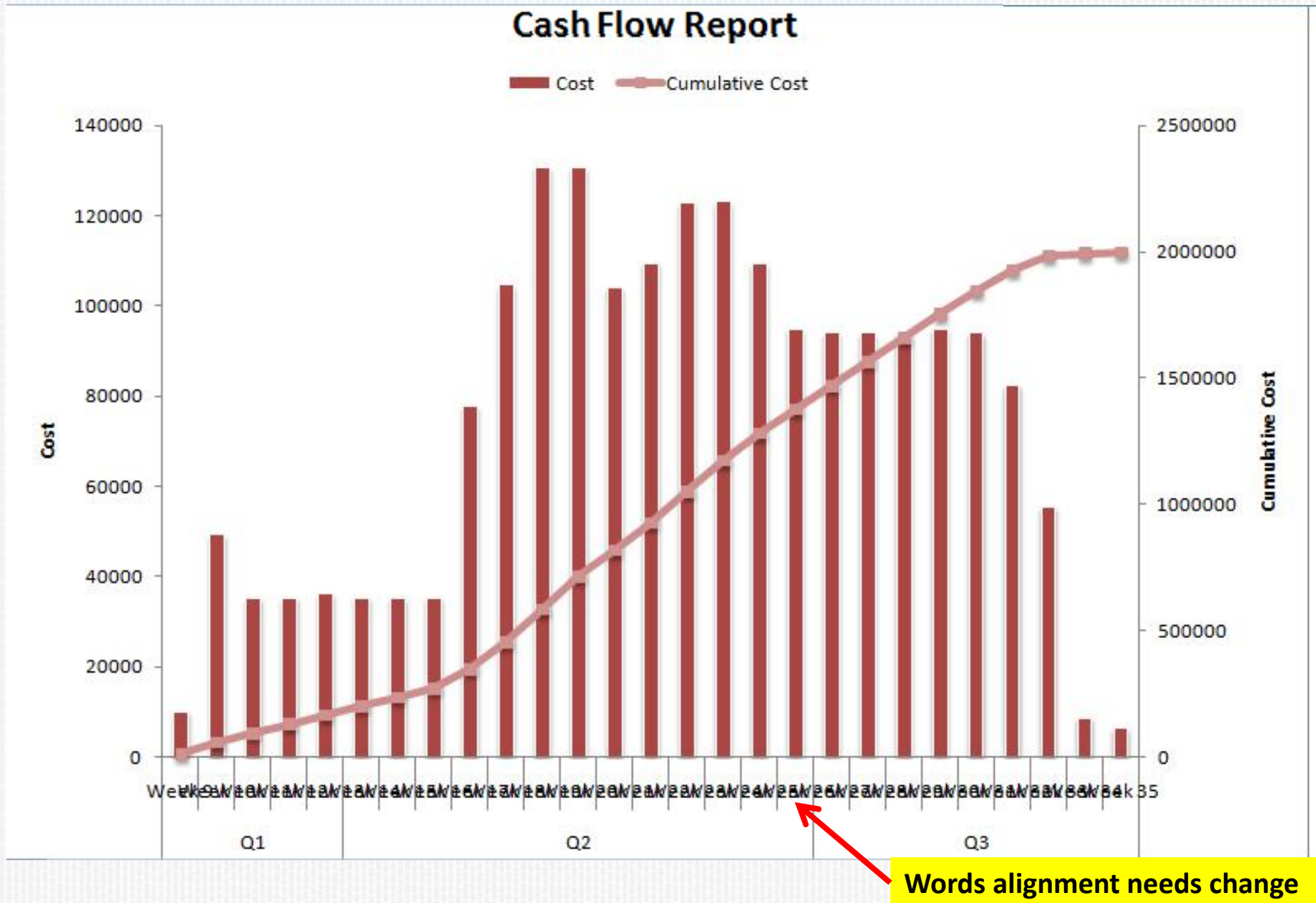
Ms Project will export the financial data into Ms Excel format

4	Year	Quarter	Week	Cost	Cumulative Cost
5	2013	Q2	Week 22	0	0
6			Week 23	7999.999821	7999.999821
7			Week 24	46632.52896	54632.52349
8			Week 25	44449.98901	99082.51904
9			Week 26	42614.82905	141697.3498
10			Week 27	41614.82907	183312.1806
11		Q2 Total		183312.1759	183312.1806
12		Q3	Week 28	33291.86926	216604.0452
13			Week 29	53736.0388	270340.0878
14			Week 30	103220.8877	373560.9778
15			Week 31	140887.5569	514448.5337
16			Week 32	120143.3873	634891.9115
17			Week 33	101395.7677	736287.6707
18			Week 34	132550.647	868838.3177
19			Week 35	162178.1161	1031024.436
20			Week 36	197646.5056	1228670.941
21			Week 37	154471.1065	1383142.123
22			Week 38	100376.9378	1483519.07
23			Week 39	126471.1872	1609990.253
24			Week 40	125471.1072	1735461.436
25		Q3 Total		1552149.275	1735461.436
26		Q4	Week 41	125471.1872	1860932.619
27			Week 42	60818.42864	1921751.043
28			Week 43	54149.75879	1975900.799
29			Week 44	24099.15946	1999999.955
30		Q4 Total		264538.5341	1999999.955
31	2013 Total			1999999.985	1999999.955
32	Grand Total			1999999.985	1999999.955
33					
34					
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45					

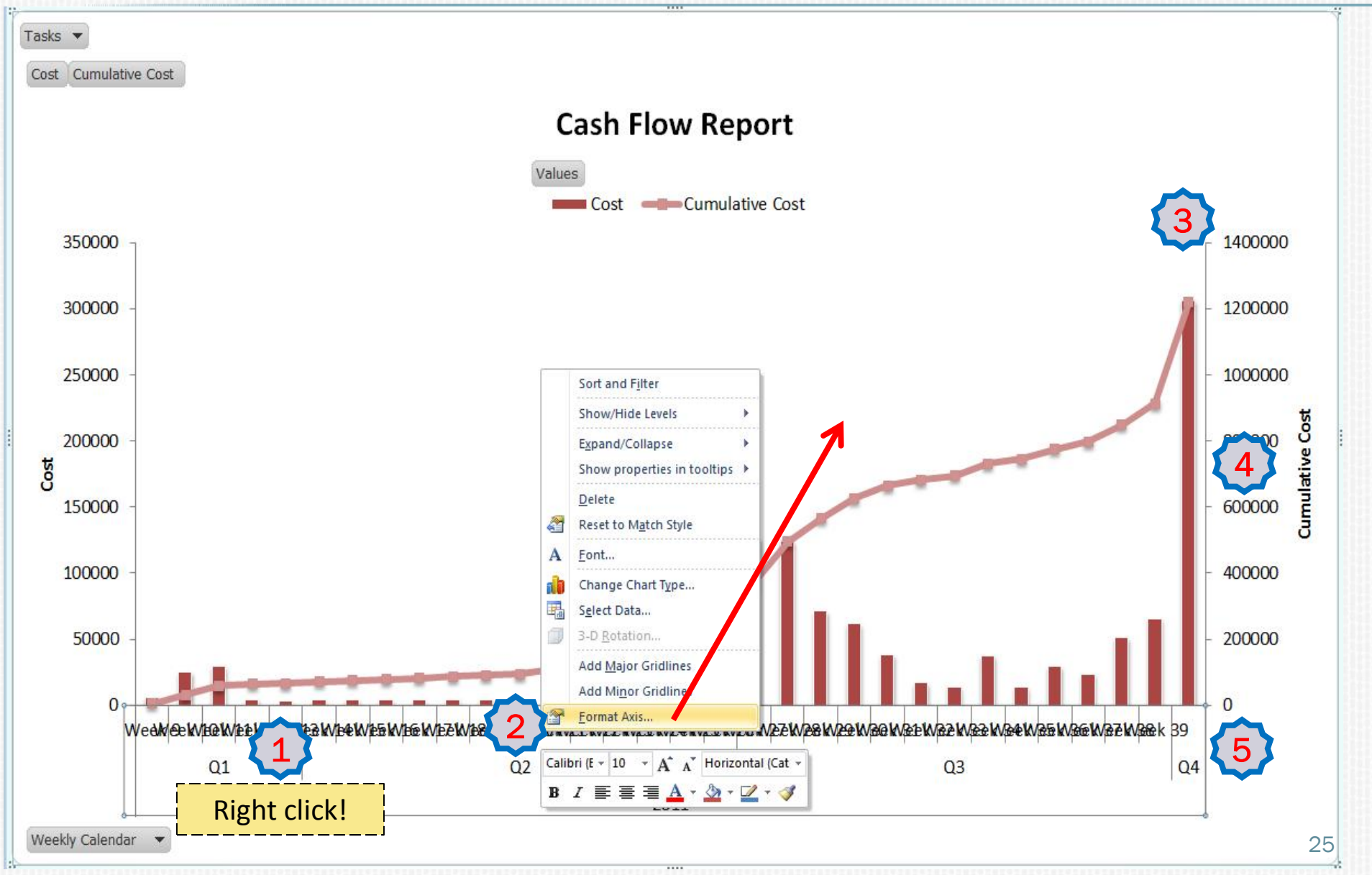
2

3

S-Curve Kewangan (Report in Week)

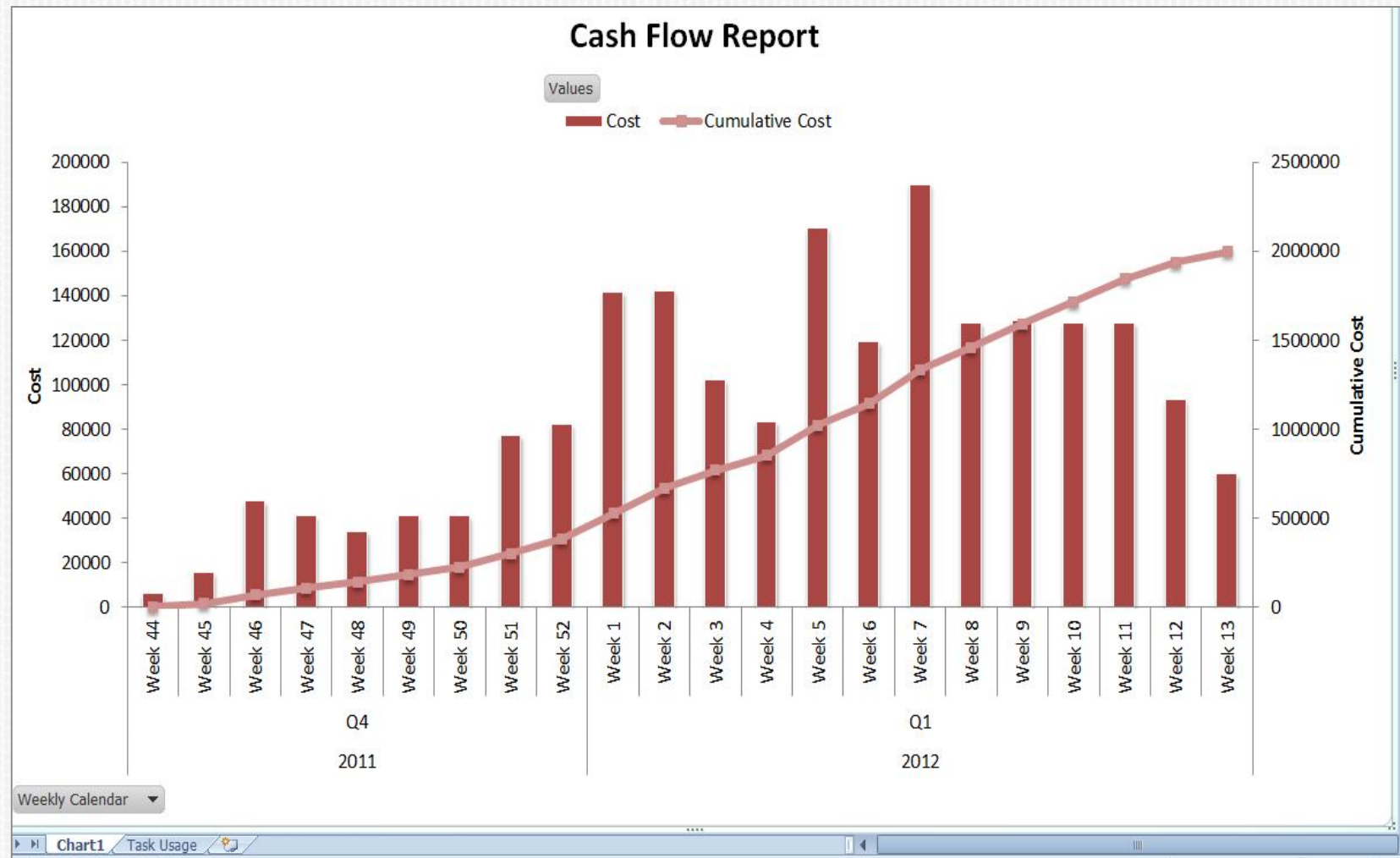


To change alignment of X-Axis title description (weeks)

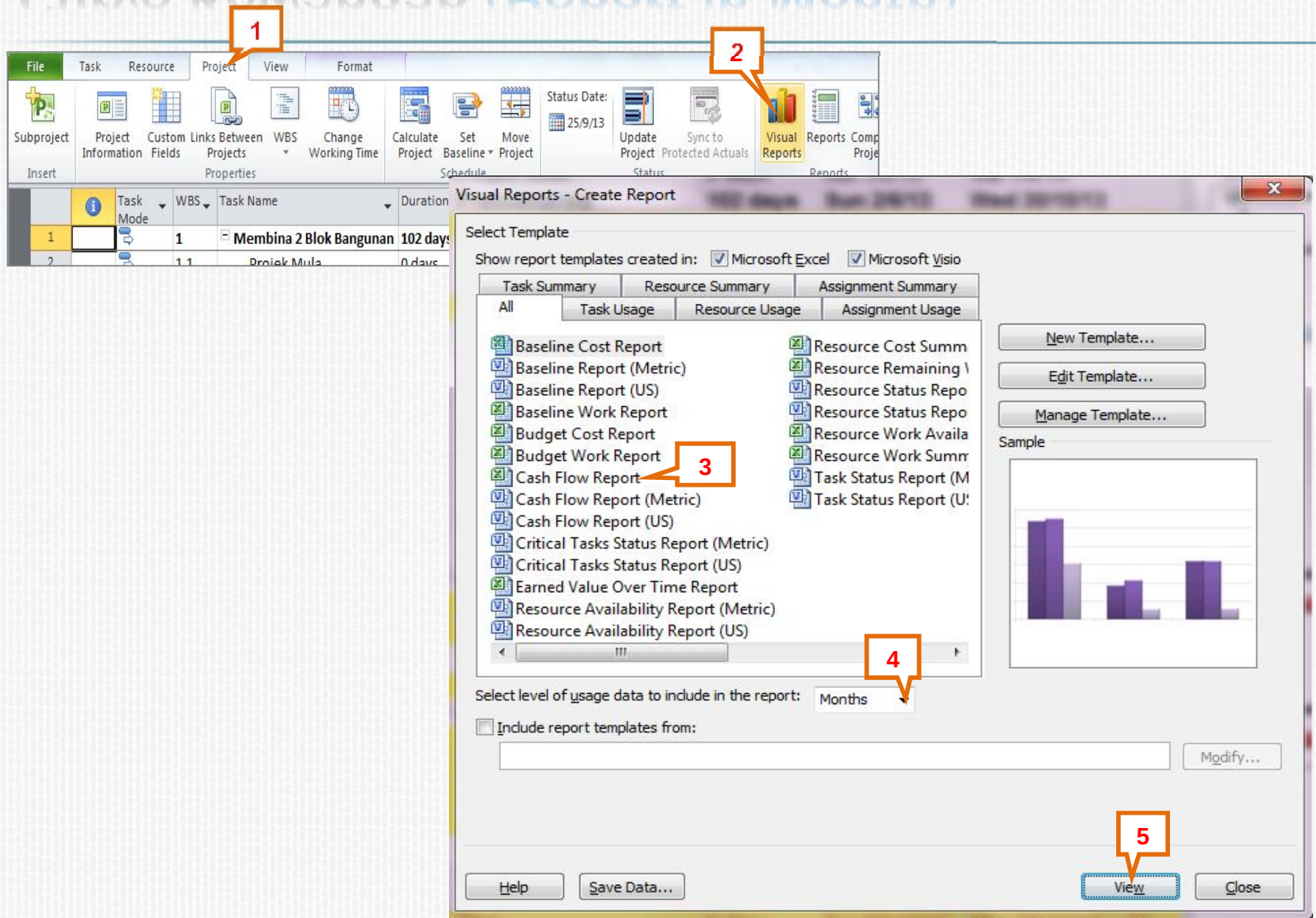


S-Curve Kewangan (Report in Week)

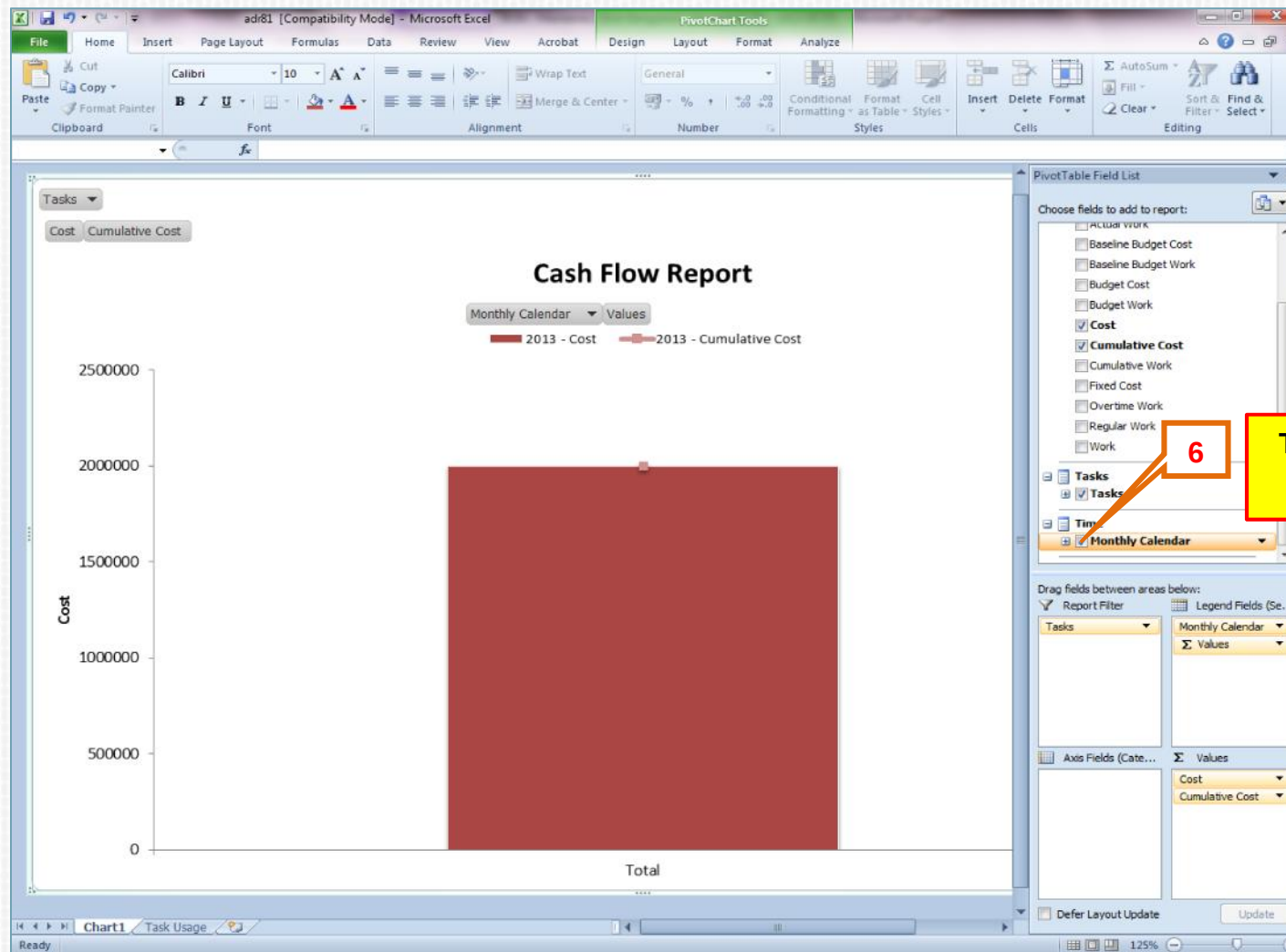
Financial S-Curve in Week



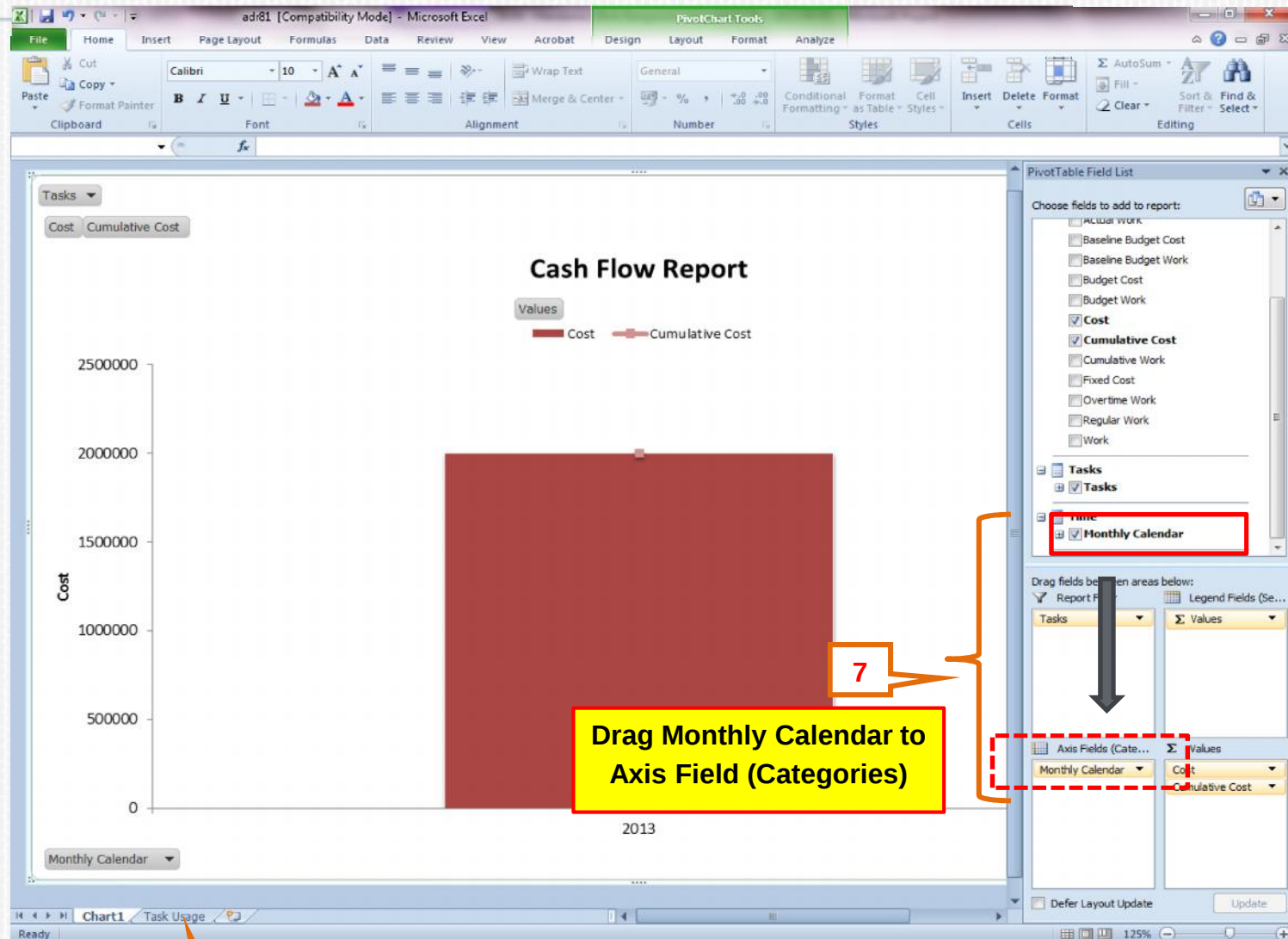
S-Curve Kewangan (Report in Month)



S-Curve Kewangan (Report in Month)



S-Curve Kewangan (Report in Month)



S-Curve Kewangan (Report in Month)

A	B	C	D	E
1	Tasks	All		
2				
3		Data		
4	Year	Cost	Cumulative Cost	
5	2013	2000000	2000000	
6	Grand Total	2000000	2000000	
7				
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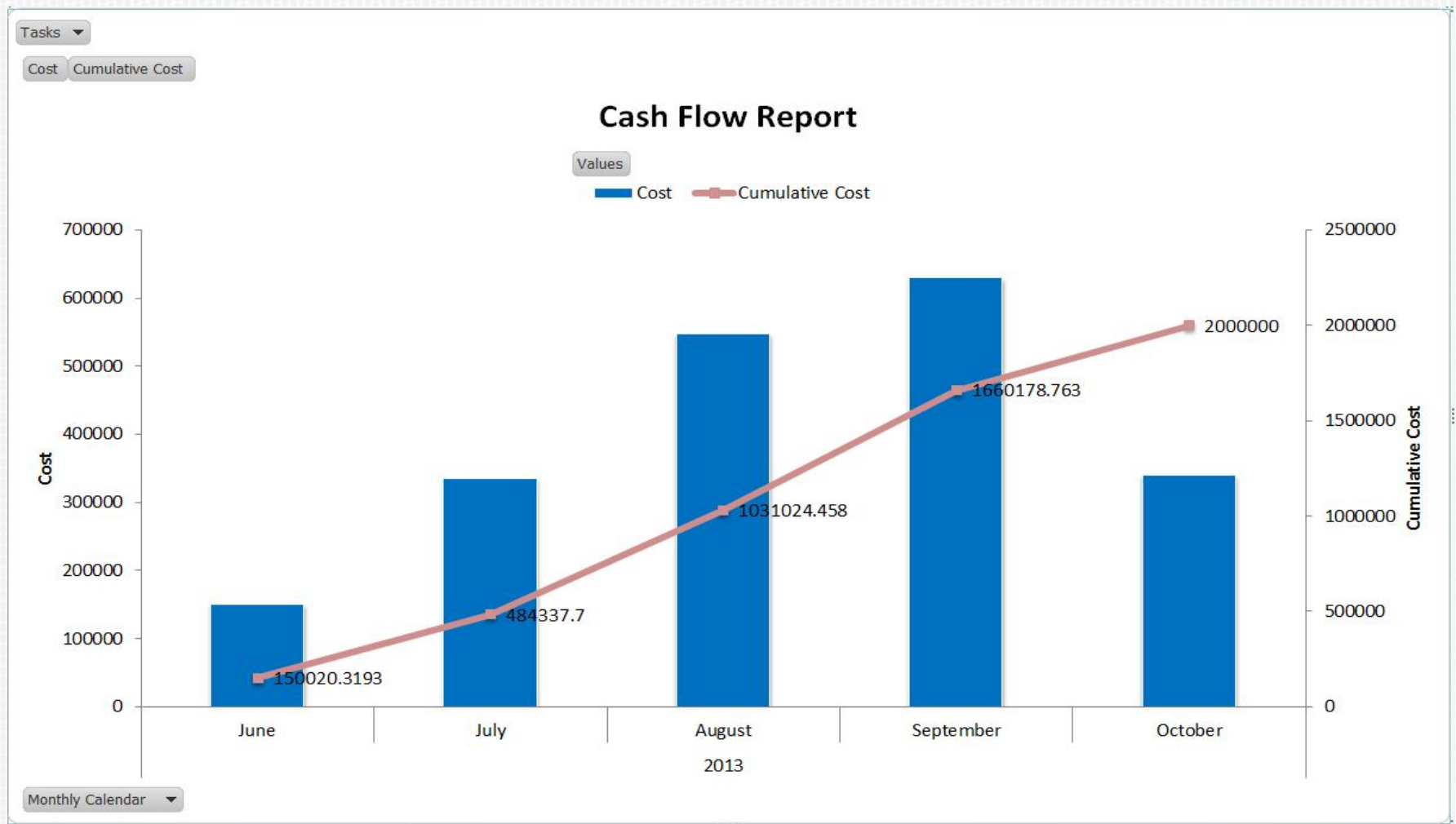
9 Untick

A	B	C	D
1	Tasks	All	
2			
3		Data	
4	Year	Month	Cost
5	2013	June	150020.32
6		July	334317.37
7		August	546686.76
8		September	629154.3
9		October	339821.25
10	2013 Total		2000000
11	Grand Total		2000000
12			
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10

S-Curve Kewangan (Report in Month)

Financial S-Curve in Month



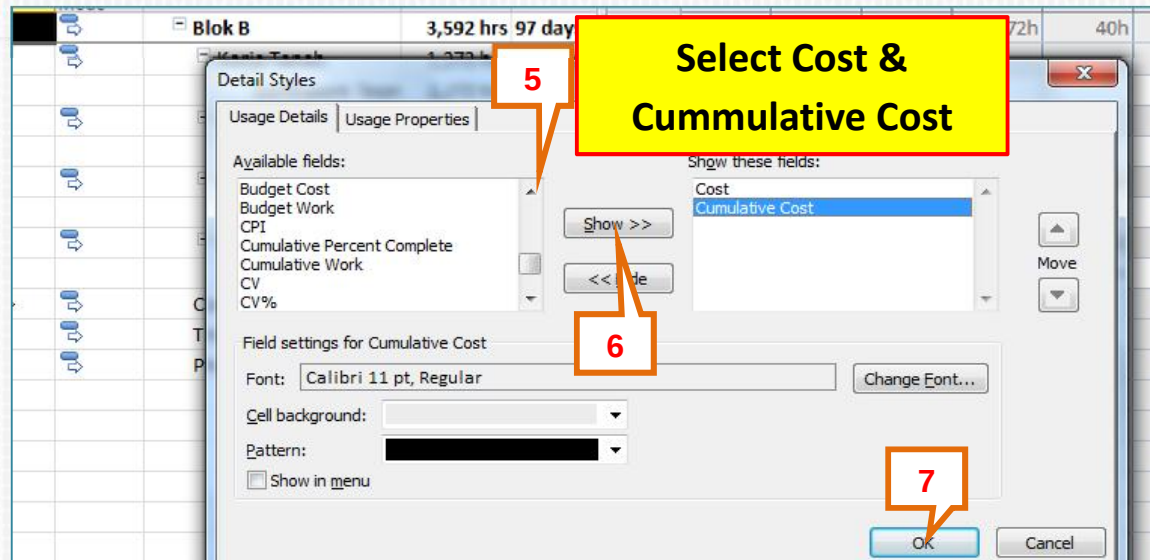
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Penyediaan S-Curve Kewangan (Method 2)

- **Menggunakan Task Usage**

S-Curve Kewangan (Report in Month)



Task Usage				8 Sep '13			
Task Mode	Task Name	Work	Duration	Cost	S	S	M
1	Membina 2 Blok Bangunan	6,600 hrs	102 days	Cost		RM34,760.91	RM34,760.91
2	Projek Mula	0 hrs	0 days	Cum. Cost	RM1,228,670.97	RM1,263,431.87	RM1,298,192.78
3	Preliminari	0 hrs	102 days	Cost		RM164.84	RM164.84
4	Performance Bond	0 hrs	5 days	Cum. Cost	RM37,230.77	RM37,395.60	RM37,560.44
5	Est & remod	0 hrs	5 days	Cost	RM10,000.00	RM10,000.00	RM10,000.00
6	Establish S.O	0 hrs	5 days	Cum. Cost	RM15,000.00	RM15,000.00	RM15,000.00
7	Removal S.O	0 hrs	2 days	Cost			
8	Maintain S.O.	0 hrs	91 days	Cost		RM164.84	RM164.84
9	Progress Report	0 hrs	83 days	Cum. Cost	RM9,230.77	RM9,395.60	RM9,560.44
10	Progress Report	0 hrs	1 day	Cost			

S-Curve Kewangan (Report in Month)

Right click to change timescale

1

2

Timescale...

Zoom...

Change Working Time...

Task Mode	Task Name	Work	Duration	Details
1	Membina 2 Blok Bangun	6,600 hrs	102 days	Cost Cum. Cost
2	Projek Mula	0 hrs	0 days	Cost Cum. Cost
3	Preliminari	0 hrs	102 days	Cost Cum. Cost
4	Performance Bond	0 hrs	5 days	Cost Cum. Cost

3

4

Timescale

Top Tier | Middle Tier | Bottom Tier | Non-working time |

Middle tier formatting

Units: Years Label: 2009, 2010, ... Use fiscal year

Count: 1 Align: Left Tick lines

Timescale options

Show: Two tiers (Middle, Bottom) Size: 100 % Scale separator

Preview

S	S	M	T	W

Help OK Cancel

S-Curve Kewangan (Report in Month)

Timescale

Top Tier | Middle Tier | Bottom Tier | Non-working time

Bottom tier formatting

Units: **Months** Label: Jan, Feb, ... ☒ Use fiscal year

Count: 1 Align: Center ☒ Tick lines

Timescale options

Show: Two tiers (Middle, Bottom) Size: 100 % ☒ Scale separator

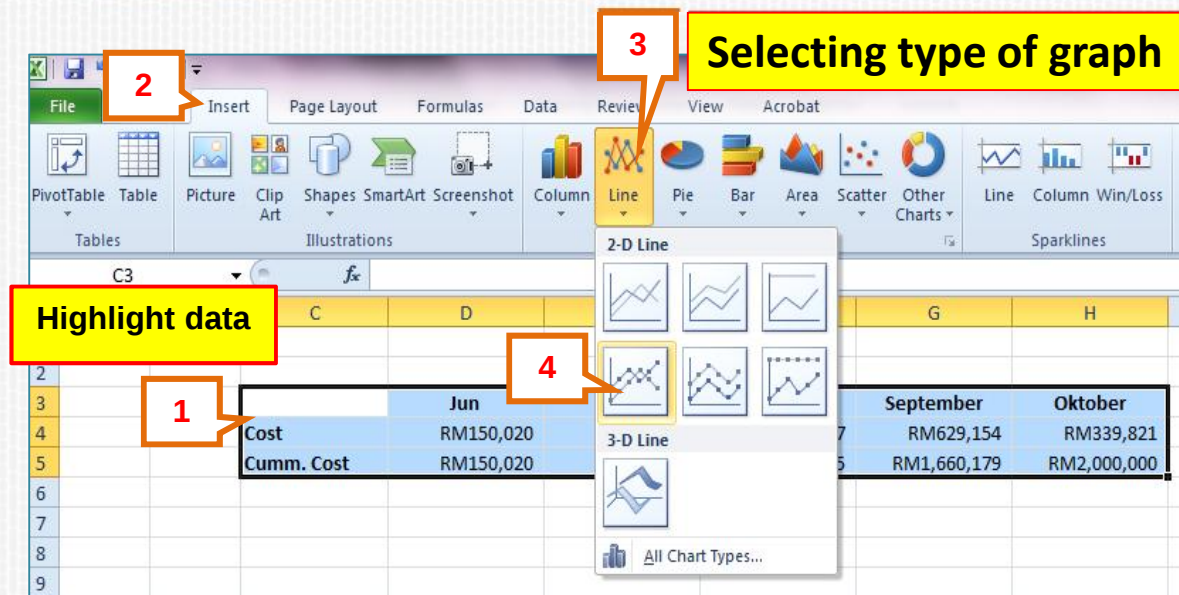
Preview

Jul	Aug	Sep	Oct	Nov

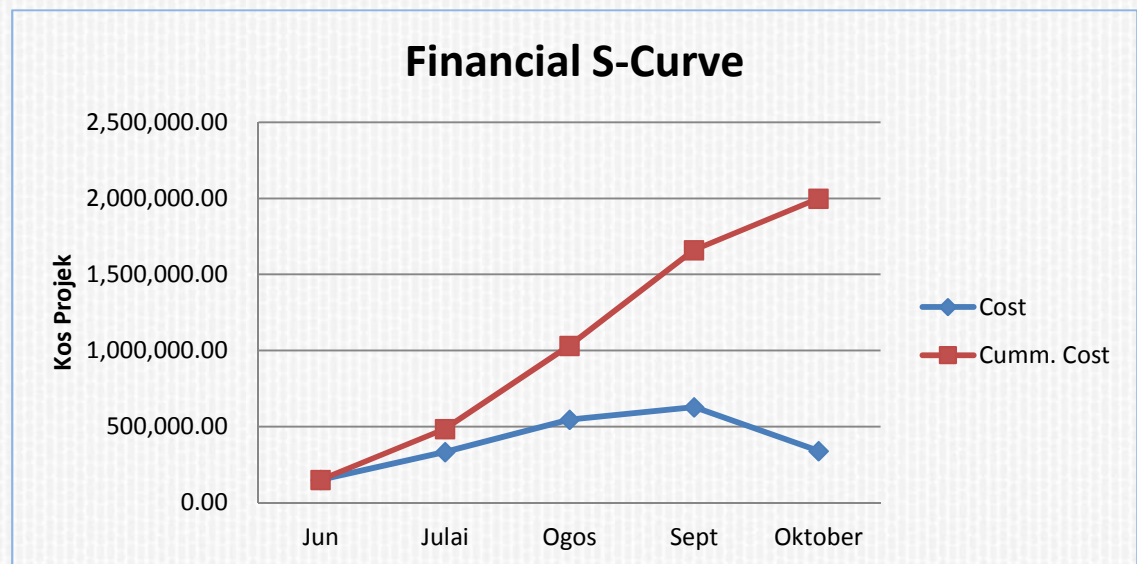
Help OK Cancel

Clipboard		Font	Schedule	Tasks	Insert	Properties	Editing	
	Task Mode	Task Name	Details					
				Jun	Jul	Aug	Sep	Oct
	 Membina 2 Blok Banguna	hrs	Cost	RM150,020.32	RM334,317.37	RM546,686.76	RM629,154.30	RM339,821.25
			Cum. Cost	RM150,020.32	RM484,337.70	RM1,031,024.46	RM1,660,178.76	RM2,000,000.00
	Projek Mula	hrs	Cost					
			Cum. Cost					
	 Preliminari	hrs	Cost	RM27,648.35	RM4,626.37	RM4,131.87	RM4,461.54	RM9,131.87
			Cum. Cost	RM27,648.35	RM32,274.73	RM36,406.59	RM40,868.13	RM50,000.00
	Performance Bond	hrs	Cost	RM10,000.00				
			Cum. Cost	RM10,000.00	RM10,000.00	RM10,000.00	RM10,000.00	RM10,000.00
	 Est & remove S.O.	hrs	Cost	RM15,000.00				RM5,000.00

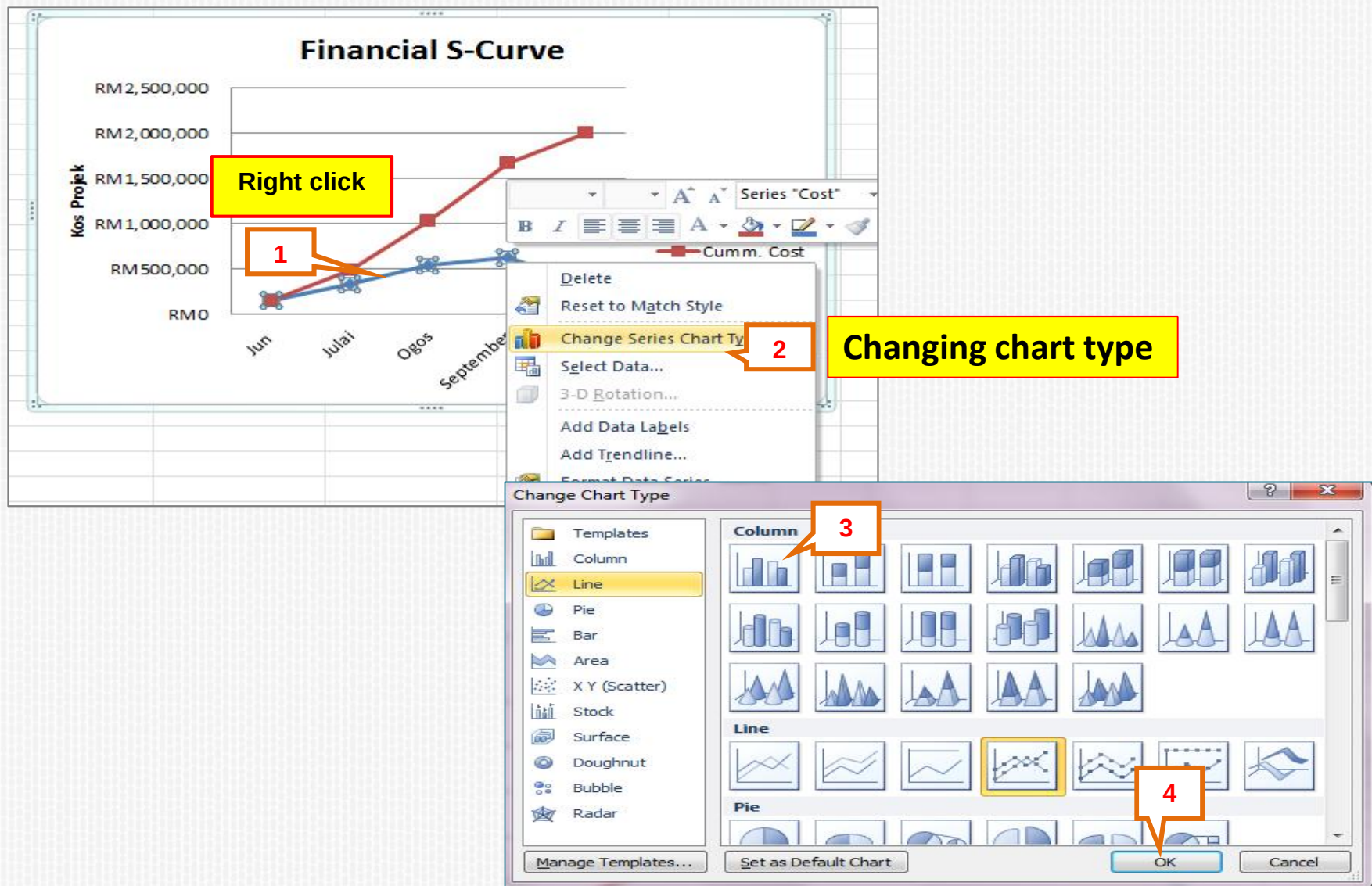
S-Curve Kewangan (Report in Month)



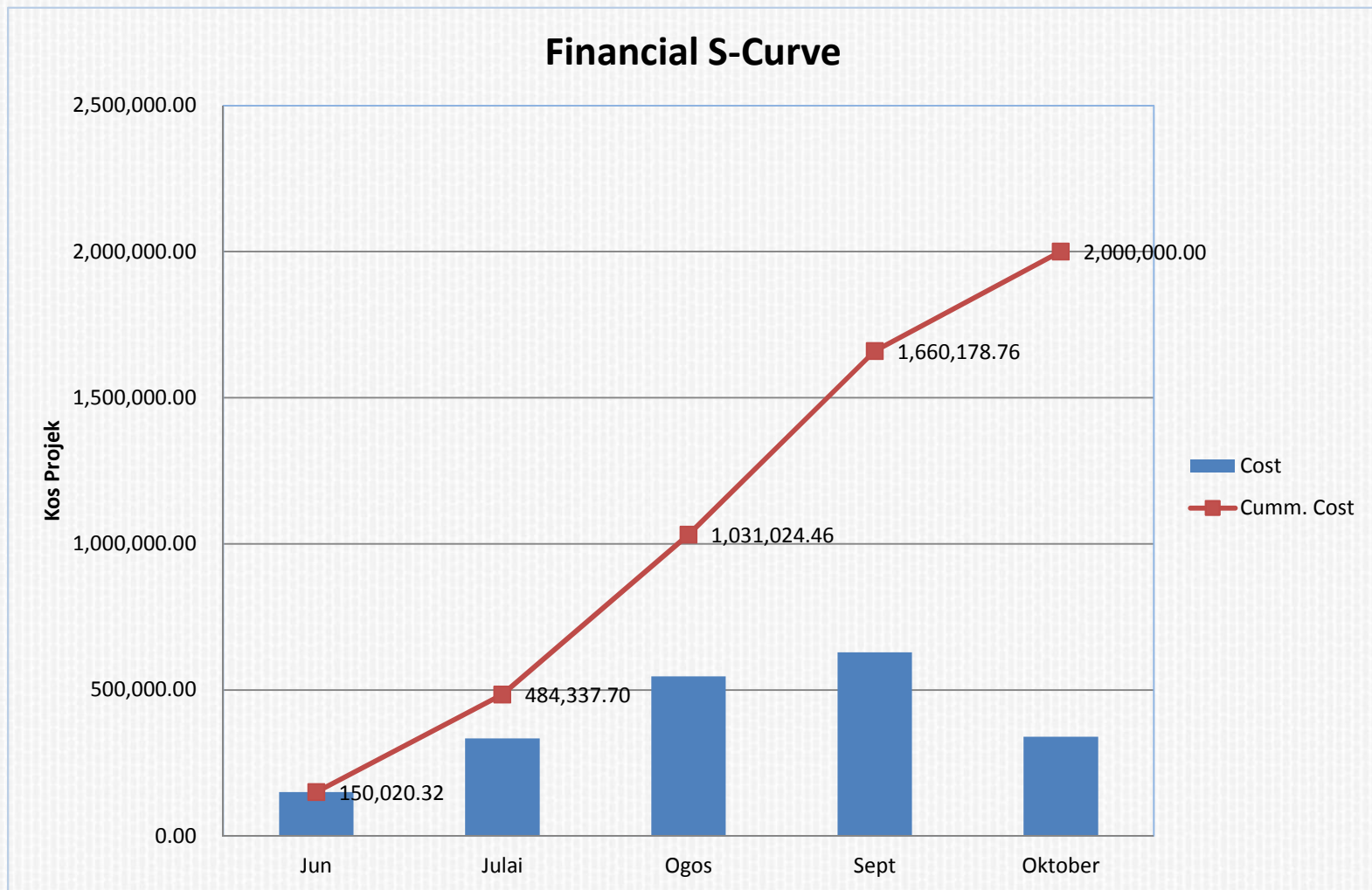
Financial S-Curve



S-Curve Kewangan (Report in Month)



Monthly Financial S-Curve And Cash Flow



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Penyediaan S-Curve Fizikal

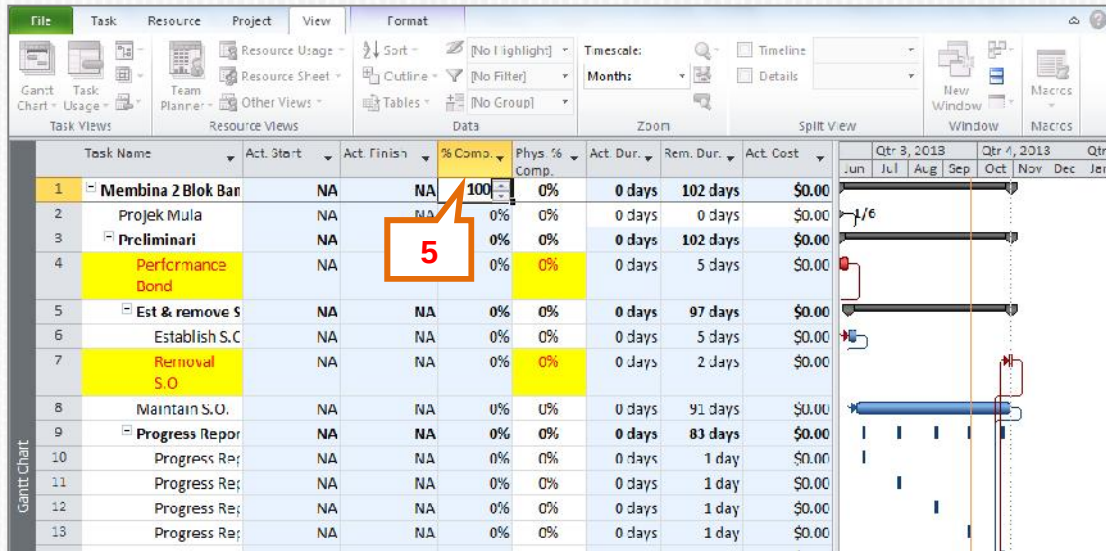
- Menggunakan Task Usage

S-Curve Fizikal (Report in Month)

The screenshot displays the Microsoft Project interface. The ribbon is set to the 'Project' tab. The 'Task Views' group on the left contains the 'Gantt Chart' button, highlighted by callout box 1. The 'Tables' button in the 'View' group is highlighted by callout box 3. A dropdown menu for 'Built-In' tables is open, showing options like 'Cost', 'Entry', 'Hyperlink', 'Schedule', 'Tracking' (highlighted by callout box 4), 'Variance', 'Work', 'Summary', and 'Usage'. The main task table is visible, showing a hierarchy of tasks for 'Membina 2 B'. The table includes columns for Task ID, Task Name, WBS, Start, Finish, and Predecessor. The 'Tracking' option is selected, and the table is filtered to show tasks with a duration of 1 day.

Task ID	Task Name	WBS	Start	Finish	Predecessor
1	Membina 2 B	1	1/6/13	Wed 30/10/13	
2	Projek Mul	1.1	1/6/13	Sat 1/6/13	
3	Preliminar	1.2	2/6/13	Wed 30/10/13	
4	Perform	1.2.1	2/6/13	Sun 9/6/13	2
5	Est & re	1.2.2	10/6/13	Wed 30/10/13	
6	Estab	1.2.2.1	10/6/13	Sun 16/6/13	4
7	Remo	1.2.2.2	29/10/13	Wed 30/10/13	28
8	Maintain	1.2.3	17/6/13	Tue 29/10/13	6
9	Progres	1.2.4	23/6/13	Wed 23/10/13	
10	Progr	1.2.4.1	23/6/13	Sun 23/6/13	
11	Progr	1.2.4.2	23/7/13	Tue 23/7/13	
12	Progr	1.2.4.3	25/8/13	Sun 25/8/13	
13	Progress Report 4	1 day	Mon 23/9/13	Mon 23/9/13	
14	Progress Report 5	1 day	Wed 23/10/13	Wed 23/10/13	

S-Curve Fizikal (Report in Month)



Key In 100% in % Comp Column

Table Tracking With 100% complete

File		Task	Resource	Project	View	Format			Timescale:		Timeline	
Gantt Chart		Task Usage	Team Planner	Resource Usage	Resource Sheet	Other Views	Sort	[No Highlight]	[No Filter]	[No Group]	Months	
Task Views			Resource Views			Data			Zoom		Split View	
	Task Name	Act. Start	Act. Finish	% Comp.	Phys. % Comp.	Act. Dur.	Rem. Dur.	Act. Cost				Qtr
1	Membina 2 Blok Ban	Sat 1/6/13	Wed 30/10/13	100%	0%	102 days	0 days	2,000,000.00				Jun
2	Projek Mula	Sat 1/6/13	Sat 1/6/13	100%	0%	0 days	0 days	\$0.00				1/6
3	Preliminari	Sun 2/6/13	Wed 30/10/13	100%	0%	102 days	0 days	\$50,000.00				
4	Performance Bond	Sun 2/6/13	Sun 9/6/13	100%	0%	5 days	0 days	\$10,000.00				
5	Est & remove S	Mon 10/6/13	Wed 30/10/13	100%	0%	97 days	0 days	\$20,000.00				
6	Establish S.C	Mon 10/6/13	Sun 16/6/13	100%	0%	5 days	0 days	\$15,000.00				
7	Removal S.O	Tue 29/10/13	Wed 30/10/13	100%	0%	2 days	0 days	\$5,000.00				
8	Maintain S.O.	Mon 17/6/13	Tue 29/10/13	100%	0%	91 days	0 days	\$15,000.00				

S-Curve Fizikal (Report in Month)

6

File Resource Project View Format

Gantt Chart Task Chart Usage

Task Views Resource Views Data Zoom Split View

Sort [No Highlight] Timescale: Months Timeline

Outline [No Filter] Details

Tables [No Group]

Task Usage

View all of the tasks and the resources assigned to them.

Use this view to update data at the day, week, or other time increment level.

		Act. Finish	% Comp.	Phys. % Comp.	Act. Dur.	Rem. Dur.	Act. Cost	
1		6/13 Wed 30/10/13	100%	0%	102 days	0 days	2,000,000.00	
2		6/13 Sat 1/6/13	100%	0%	0 days	0 days	\$0.00	1/6
3		6/13 Wed 30/10/13	100%	0%	102 days	0 days	\$50,000.00	
4		6/13 Sun 9/6/13	100%	0%	5 days	0 days	\$10,000.00	
5	Bond							
6	Est & remove S	Mon 10/6/13 Wed 30/10/13	100%	0%	97 days	0 days	\$20,000.00	
7	Establish S.C	Mon 10/6/13 Sun 16/6/13	100%	0%	5 days	0 days	\$15,000.00	
8	Removal	Tue 29/10/13 Wed	100%	0%	2 days	0 days	\$5,000.00	

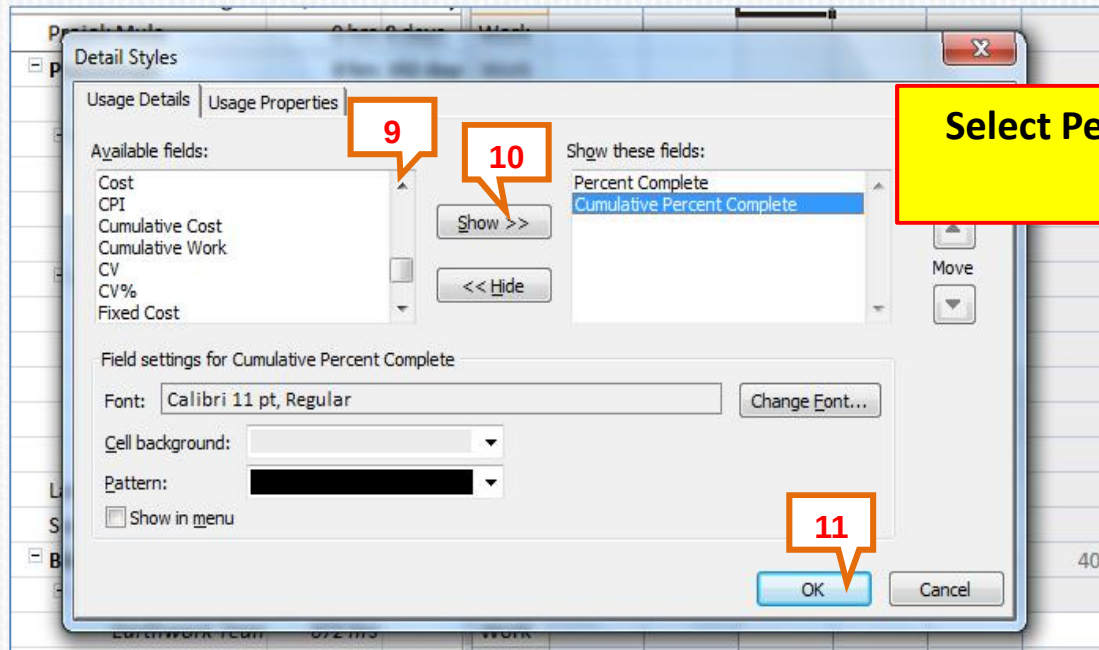
Task Usage

Task Name | **Work** | **Duration** | **Details**

Task Name	Work	Duration	Details
Blok B	3,592 hrs	97 days	
Kerja Tanah	1,272 hrs	53 days	
Earthwork Team	1,272 hrs		
Kerja Struktur	960 hrs	30 days	
Structure Team	960 hrs		
Kerja Arkitek	688 hrs	43 days	
Architectural Team	688 hrs		
Kerja M+E	672 hrs	28 days	
M&E Team	672 hrs		
Completion of Cable L	0 hrs	0 days	
TnC	0 hrs	5 days	
Projek Siap	0 hrs	0 days	

Right click

S-Curve Fizikal (Report in Month)



Select Percent Complete & Cumulative Percent Complete



File Task Resource Project View Format										
Task Views Resource Views Data Zoom Split View Window Macros										
Task Name Work Duration Details										
8 Sep 13										
F S S M T W T										
1	✓	Membina 2 Blok Banguna	6,600 hrs 102 days	% Com			1%	1%	1%	1%
2	✓	Projek Mula	0 hrs 0 days	Cum. 9	60%	60%	61%	62%	64%	65%
3	✓	Preliminari	0 hrs 102 days	% Com			1%	1%	1%	1%
4	✓	Performance Bond	0 hrs 5 days	Cum. 9	63%	63%	64%	65%	66%	67%
5	✓	Est & remove S.O.	0 hrs 97 days	% Com						
6	✓	Establish S.O	0 hrs 5 days	Cum. 9	71%	71%	71%	71%	71%	71%

S-Curve Fizikal (Report in Month)

File		Task	Resource	Project	View	Format											
									Timescale:								
Gantt Chart		Task Usage	Team Planner	Resource Usage	Resource Sheet	Other Views	Sort	[No Highlight]	Months	Timeline	Details	New Window	Macros				
Task Views		Resource Views				Data		Zoom		Split View		Window		Macros			

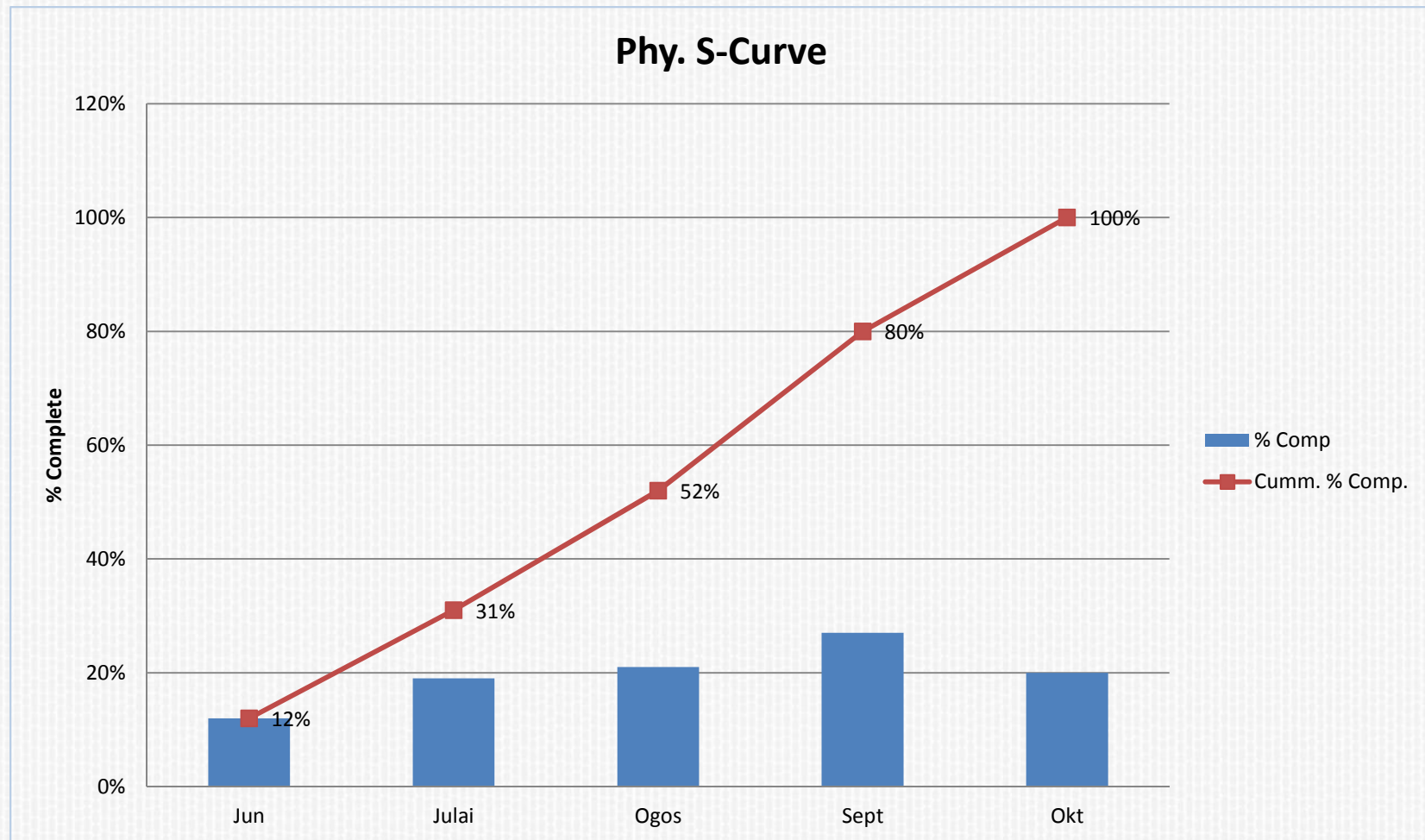
		Task Name	Work	Duration	Details						
					% Complete	May	Jun	Jul	Aug	Sep	Oct
1		Membina 2 Blok Bangunan	6,600 hrs	102 days	% Complete	0%	12%	19%	21%	27%	20%
					Cum. % Complete	0%	12%	31%	52%	80%	100%
2		Projek Mula	0 hrs	0 days	% Complete	0%	0%				
					Cum. % Complete	100%	100%				
3		Preliminari	0 hrs	102 days	% Complete		19%	21%	18%	20%	20%
					Cum. % Complete		19%	41%	59%	80%	100%
4		Performance Bond	0 hrs	5 days	% Complete		100%				

	A	B	C	D	E	F	G	H	I	J
1										
2										
3				Jun	Julai	Ogos	September	Oktober		
4		% complete		12%	19%	21%	27%	20%		
5		Cumm. % complete		12%	31%	52%	80%	100%		

Copy data from Ms Project to Ms Excel

Monthly Physical S-Curve And Cash Flow

Repeat steps as previous slides and plot the S-Curve



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Saving File



Saving File

1

2 Key in '0'

3

4

5

View the task sheet on one side of the view and graphical bars corresponding to the task durations on the other side of the view.

Task Name	Act. Start	Act. Finish	% Comp.	Phys. % Comp.	Act. Dur.	Rem. Dur.	Act. Cost
1 Membina 2 Blok Bangun	Sat 01 06 13	Wed 30 10 13	0%	0%	102 days	0 days	2,000,000.00
2 Projek Mula	Sat 01 06 13	Sat 01 06 13	100%	0%	0 days	0 days	\$0.00
3 Preliminari	NA	NA	100%	0%	102 days	0 days	\$50,000.00
4 Performance Bond	NA	NA	100%	0%	5 days	0 days	\$10,000.00
5 Est & remove S	NA	NA	100%	0%	97 days	0 days	\$20,000.00
6 Establish S.C	NA	NA	100%	0%	5 days	0 days	\$15,000.00
7 Removal S.O	NA	NA	0%	0%			
8 Maintain S.O.	NA	NA	0%	0%			
9 Progress Repor	NA	NA	0%	0%			
10 Progress Ref	NA	NA	0%	0%			
11 Progress Ref	NA	NA	0%	0%			
12 Progress Ref	NA	NA	0%	0%			
13 Progress Ref	NA	NA	0%	0%			

Built-In

- Cost
- Entry
- Hyperlink
- Schedule
- Tracking
- Variance
- Work
- Summary
- Usage
- Reset to Default
- Save Fields as a New Table
- More Tables...

Qtr 2, 2013

Apr May Jun Jul

Saving File

6

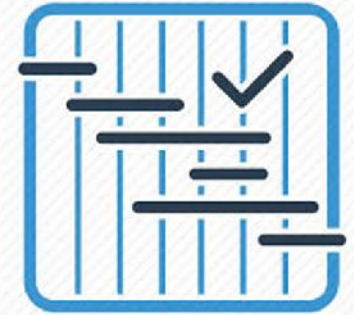
The screenshot shows the Microsoft Project interface. The 'File' menu is open, and the 'Save' option is highlighted. A red box with the number '7' points to the 'Save' option. The background shows a Gantt chart for a project named 'BGN - Membina 2 Blok Bangunan - Initial - 01 - 2013-06-01 - Microsoft Project'.

Task ID	Task Name	Duration	Start	Finish	Predecessor
1	Membina 2 Blok Bangunan	102 days	Sat 01 06 13	Wed 30 10 13	
2	Projek Mula	0 days	Sat 01 06 13	Sat 01 06 13	
3	Preliminari	102 days	Sun 02 06 13	Wed 30 10 13	
4	1.2.1 Performance Bond	5 days	Sun 02 05 13	Sun 09 05 13	2
5	1.2.2 Cst & remove S.O.	97 days	Mon 10 05 13	Wed 30 10 13	
6	1.2.2.1 Establish S.O	5 days	Mon 10 06 13	Sun 16 05 13	4
7	1.2.2.2 Removal S.O	2 days	Tue 29 10 13	Wed 30 10 13	28
8	1.2.3 Maintain S.O.	91 days	Mon 17 06 13	Tue 29 10 13	6
9	1.2.4 Progress Report	83 days	Sun 23 05 13	Wed 23 10 13	
10	1.2.4.1 Progress Report 1	1 day	Sun 23 05 13	Sun 23 05 13	
11	1.2.4.2 Progress Report 2	1 day	Tue 23 07 13	Tue 23 07 13	
12	1.2.4.3 Progress Report 3	1 day	Sun 25 08 13	Sun 25 08 13	
13	1.2.4.4 Progress Report 4	1 day	Mon 23 09 13	Mon 23 09 13	
14	1.2.4.5 Progress Report 5	1 day	Wed 23 10 13	Wed 23 10 13	
15	1.3 Land Acquisition (A&B)	0 days	Sat 01 06 13	Sat 01 06 13	
16	1.4 Service Relocation (B)	0 days	Sat 01 06 13	Sat 01 06 13	
17	1.5 Blok A	93 days	Mon 10 06 13	Thu 24 10 13	
18	1.5.1 Kerja Tanan	42 days	Mon 10 06 13	Wed 07 10 13	
19	1.5.2 Kerja Struktur	33 days	Thu 18 07 13	Wed 04 08 13	
20	1.5.3 Kerja Arkitek	43 days	Thu 22 08 13	Thu 24 10 13	
21	1.5.4 Kerja M&E	32 days	Thu 29 08 13	Mon 14 10 13	
22	1.6 Blok B	97 days	Mon 10 06 13	Wed 30 10 13	
23	1.6.1 Kerja Tanah	53 days	Mon 10 06 13	Mon 26 08 13	
24	1.6.2 Kerja Struktur	30 days	Mon 29 07 13	Tue 10 09 13	
25	1.6.3 Kerja Arkitek	43 days	Wed 28 08 13	Wed 30 10 13	
26	1.6.4 Kerja M&E	28 days	Wed 04 09 13	Mon 24 10 13	
27	1.7 Completion of Cable Lay by TNB	0 days	Mon 21 10 13	Mon 21 10 13	
28	1.8 InC	5 days	Tue 22 10 13	Mon 28 10 13	
29	1.9 Projek Siap	0 days	Wed 30 10 13	Wed 30 10 13	

Project Information

Start Date	1/6/2013
Finish Date	30/10/2013
Schedule from	Start
Current Date	Today
Status Date	Today
Last Modified	Today
Project Calendar	Standard
Priority	500

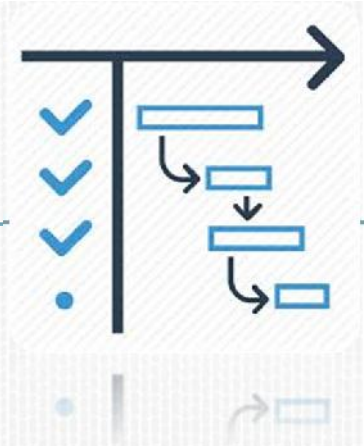
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❖ Application of S-Curve : **Financial S-Curve.**

- Financial S-Curve shall be generated from Accepted Work Programme.
- **THIS** Financial S-Curve is to be used in SKALA (Unjuran Kewangan Kontrak).
- Progress reporting in SKALA is financial progress.

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❖ Application of S-Curve : **Physical S-Curve.**

- Physical S-Curve is derived from % complete which is based on duration.
- Report of physical work progress shall be based on the physical s-curve.

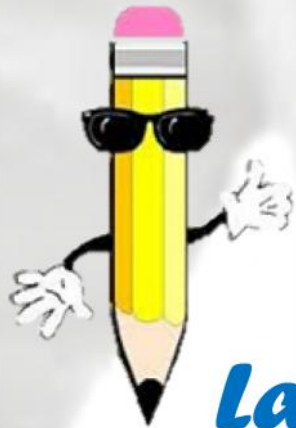
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❖ FINAL SUMMARY.

- Financial S-Curve obtained from the approved Work Programme.
- More realistic reporting based on the approved Work Programme.
- Contractor has to perform based on the financial cash flow that has been planned.

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Latihan 3

Penyediaan S-Curve

Activity	Duration (weeks)	Cost (RM)	W1	W2	W3	W4	W5
A	4	24 k					
B	5	30 k					
C	4	16 k					
D	2	50 k					
E	2	80 k					
F	3	18 k					

Penyediaan S-Curve

❖ CLASS EXERCISE

Q.1 Plot the Financial S-Curve

Q.2 Plot the Physical S-Curve

Q.3 Combine the Financial S-Curve & Physical S-Curve in the same chart

Q.4 Why Physical S-Curve show higher than Financial S-Curve??

Q.5 What is the progress of the works at week 3?

Q.6 At week 3, how much can be claimed as payment for work done?

Penyediaan S-Curve

❖ CLASS EXERCISE

Q.7 At week 3, the contractor actually achieved the following works:

- ➡ A – done 1000/2000
- ➡ B – done 2 Of 5 column
- ➡ C – installed A/C units 1 of 4
- ➡ D – no progress (0%)
- ➡ E – no progress (0%)
- ➡ F – done 100/300

What's the progress & how much can be paid out?

Penyediaan S-Curve



❖ RUMUSAN.

- ✓ Pastikan nilai bayaran yang disyorkan mengikut nilai kerja sebenar dan bukannya mengikut kemajuan fizikal
- ✓ Setiap program kerja akan menunjukkan perbezaan di antara % kemajuan fizikal dan % kemajuan kewangan – Rujuk S-Curve untuk lihat perbezaan